Northern COMPUTER HOBBY Newsletter

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This issue continues with Part 2 of our Snapshot of Computer Technology Shifts, this article coming to grips with the tricky relationship between hardware and software, acknowledging that this being of all times a most unpredictable phase of the computer industry, perhaps we can't predict anything much at the best of times! Maybe it is just one of those cases of too many variables and too few equations, or to put it another way, only time will tell whether your guess or mine is the best one. This analysis does lead to the opinion though that those who do not try to analyse the way trends in technology in this industry go, to isolate future opportunities in research and marketing, are likely to face odds far too long to win success by sitting still, hoping they are following a learning curve upwards. There has been no business like it previously. In such an information/knowledge guided industry, businesses with no advanced plan and alternatives and no house guru (or three) are deadmeat. The only key to the future is in past history and little has been written about technological history and less still with a technical perspective (except autobiographies). What can one say, except read some this year!

ANTIQUE ZX-81'S?

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Talking of history it would seem that the non-IBM, orphan computers or "classic" computers may be taking a second seat to the cheap IBM PC clones for hobbyists but may not die out. Even though entering a period that antique cars went through of derision, grease-monkey-restoration and being thrown down gullies, they may yet emerge in a hobby activity apart from ordinary amateur programming on IBM clones.

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Foreign Problems With Languages As computerization spreads, the demand for software to cope with different ways of writing and vocabularies is having a peak in demand. Early work in Hong Kong got printing of Chinese characters off to an early start since the university had British access to computers in the 1970's. Now it is the turn of Russian and other Slavic languages. Don't forget, how some use the 'funny' Cyrillic alphabet and others our own Roman one, usually with some special accented letters thrown in for good measure. Early reports from Russia suggested a need for spelling checker dictionaries and now other things like text compression and Windows, etc. fonts are creating a specialized market. Whatever the goal, Zipcode Software, POB 15986, Nepean, Ont., Can. is tackling Cyrillic packing. How does one compress Russian? It has more letters in the alphabet than ours has and an early decision is on how many extras to add (learners' ë?, pre-Revolution characters kept by Serbian, Ukrainian and other slavic tongues, very much in use in the various republics of the USSR?). One thinks of Hebrew, which in the standard (not learner's) form uses a pre-Christian from of data compression for human use, simply leaving out the vowels in the written text, all written text! Could we do that today, perhaps with other languages? Could we use a list of rules for adding vowels or just dictionary look-up? . . . The problems of working in a foreign language, particularly data compression, are on the minds of this writer these days as attempts to incorporate French as well as English dialog text, like "Do you want to save this on disk?", in the program and the French equivalent use up a lot of memory in what was intended as lean and (not too) mean, source code. A fix being thought of is reducing the French and English to disk stored resources like Apple Macintosh programs, so only English or French, not both need be in RAM at one time, and in the variable page instead of executable page at that. A quick and specialized text compression program will be used to display the RAM-stored dialog text a line at a time, Two versions of the algorithm are running now with a little more tuning going on before chosing between alternative algorithms. It all reaffirms that specialized solutions, custom written are better than textbook ones as nearly all off-the-shelf algorithms for compression would not be as compact or simple and inherently quick as the ones the writer is trying now....Another problem is that foreign accents are not extras but special characters often with codes in ASCII, if standard at all, that bomb text editors and wordprocessors, like EDLIN. What to do? A fix the writer uses, is to add the accents before the letter for the benefit of wordprocessors and editors only and reprocess them to get special accented letter codes with another utility. Works well, if slowly in the writer's test versions for this for French, German, Spanish etc. But then how to handle those pesky accented letters in data compression algorithms. Answer: with a lot of advance planning when writing the routines at the start!

The big news on the hardware side of computers this spring has been discounting of hardware to the point that just about anyone can or should shortly be able to afford a new or used IBM™PC compatible computer for their home. $2000 computer systems are approaching $200-$300 on the used market which is being flooded with used units abandoned in the push for efficiency in business that with high wages of computer users, need only save seconds per task to make expensive upgraded models a business necessity. Compare this to cars in the 1920's. The mass produced Model T, like the cloned IBM PC/AT brought cars to the masses. Soon, combined with a mass of used Model T's on the market, a whole new business, that of low cost accessories and fix-it kits was born. In computers it is the writer's opinion that the parallel in the this aftermarket business which made say Canadian Tire into a monster retail success after WW 2, may be a monster market for cheap software, say knock-offs of database and wordprocessor standards, programming languages and all nature of utilities, and anything that can increase the fun, usefulness or actual capability of these largely 640K or less, dual floppy or small harddrive equipped 4 to 8 MHz IBM PC/XT/AT clones. Some hardware like disk drive interface adapters to allow larger harddrive or high density floppies or optical disks, keyboard replacement packages, etc. and megabyte RAM upgrades with DOS in the ROM thrown in are good possibilities too

The second hardware trend that feeds much the same market potential is the emergence of laptop and notebook, IBM compatibles with again floppy disk, 640K or less standards, so that some of the same software serving the first mentioned used/cloned IBM PC/XT™market may also prove hot sellers in this market too.

The third trend to watch is non-standard, aftermarket, etc, operating systems although it is too early to tell how or how big a market share such a thing as a graphic-based, MS DOS replacement might displace from other software product lines that depend on operating systems especially, like programs that must be compiled into executable form by a compiler made specifically for compiling programs to run under such a new operating system, likely completely incompatible with programs (.EXE and .COM) compiled for MS DOS™use. A fourth condition that relates to operating systems is the question whether a new operating system or even a new version of MS DOS would be so new (multi-media, multi-user, multi-one-can-guess-not-what) that it will completely obsolete tons of software now in use, opening an opportunity in the software industry never to be seen again.

That is the radical stuff. The safer is of software using ever more mips, megs and pixels and perhaps the battle of the operating systems forestalled as the IBM market goes the way NeXT™did, to GUI's as shells (NeXT uses UNIX™cloning) and optimization of the nuts and bolts too (NeXT=Mach UNIX optimizations, IBM™AT= Windows 3 and optimization of MS DOS version 5). Laptops and smaller laptops (notebooks?) are still the big news and in software that means special versions of the major desk computer MS DOS applications. Why MS DOS compatibility anyway (and not just file convertibility-compatibility like the Z-88's)? It seems that users don't want to learn anything new, another software application than they know plus a few MS DOS commands they use repeatedly. Leads to a paradox in software predictions since for a given year's technology you just can't get the same MIPS and megs into a small box as a big one,(the desktop one, (towers now!) so newer, better in laptop software means slightly out of date or just different and not completely compatible. (Will laptops ever escape compatibility with desktop-set-standards? Will we get a convertible, SPARC/68000/80286 with RISC core?)

Looking at the nature of software (and hardware trends) one sees them inextricably juxtaposing, as radical hardware improvements in MIPS and megs leads to changes in the quality of software and therefore new hardware demands, such as radically different graphics interfacing. (Imagine workstation CAD/CAM saddled with old chunky character based graphics or worse still clunky telegraph teleprinters of the early microcomputer - and mini- days.) Normally in any field simple, linear extrapolation is mixed with the three stages of hardware maturity, many unreliable types, shake out to fewer reliable types, to standardization, like the way Stanley Steamers and electrics died away and today's cars have no choices for the designers to mull over like tiller or steering wheel, lever for spark or not. Computer hardware does not grow like that! It seems to be a path traced out by following the interaction of three factors hardware, software and user intelligence, a gyrating cluster no less! I wouldn't bet on planned obsolescence and 7 year annual feature addition plans working in this market!